

**WHAT IS CLAIMED IS:**

1. A spool for winding an optical fiber, comprising:  
first and second cylindrical barrels for winding the optical fiber thereon, the barrels being axially engaged face-to-face at a juncture;  
5 first and second flanges configured for restricting a winding area of the optical fiber by having a disk shape, being disposed to sandwich the barrels and being dimensioned to radially protrude from the barrels; and  
ultrasonic fusion splicing points formed along said juncture by setting a head of an ultrasonic fusion splicer on one side of first and second cylindrical barrels and by  
10 transmitting an ultrasonic wave from the head to the juncture so as to fusion splice the first and second flanges together.
2. The spool for winding an optical fiber as set forth in claim 1, wherein each of the first and second barrels has an end, the axial engagement occurring at the ends, the juncture being uneven along said ends.
- 15 3. The spool for winding an optical fiber as set forth in claim 2, wherein the juncture is configured in a zigzag pattern.
4. The spool for winding an optical fiber as set forth in claim 1, wherein the optical fiber has a start end; and  
20 wherein at least one of the first and second flanges includes a through hole for

passing the start end of the optical fiber.

5. The spool for winding an optical fiber as set forth in claim 4, wherein said at least one of the first and second flanges includes both flanges.

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6. The spool for winding an optical fiber as set forth in claim 5, wherein each of the first and second flanges has an outer surface, a subsidiary barrel formed on said outer surface, and a guide rib formed from the through hole to the subsidiary barrel to guide the optical fiber to the subsidiary barrel.

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7. The spool for winding an optical fiber as set forth in claim 6, wherein each of the guide ribs extends radially to guide movement of the optical fiber between the subsidiary barrel and the through hole of the respective flange.

8. The spool for winding an optical fiber as set forth in claim 7, wherein each guide rib is curved in an arc shape.

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9. The spool for winding an optical fiber as set forth in claim 4, wherein at least one of the first and second flanges has an outer surface, a subsidiary barrel formed on said outer surface, and a guide rib formed from the through hole to the subsidiary barrel to guide the optical fiber to the subsidiary barrel.

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10. The spool for winding an optical fiber as set forth in claim 9, wherein the guide rib extends radially to guide movement of the optical fiber between the subsidiary barrel and the through hole of the respective flange.

11. The spool for winding an optical fiber as set forth in claim 10, wherein the  
5 guide rib is curved in an arc shape.

12. The spool for winding an optical fiber as set forth in claim 1, wherein the first and second flanges are made of plastic.

13. The spool for winding an optical fiber as set forth in claim 1, wherein the  
10 barrels are mutually axially aligned.

14. The spool for winding an optical fiber as set forth in claim 1, wherein optical fiber is wound around at least one of the first and second cylindrical barrels.

15. A spool for winding an optical fiber, comprising:  
first and second cylindrical barrels for winding the optical fiber thereon, the barrels being axially engaged face-to-face at a juncture;  
first and second flanges configured for restricting a winding area of the optical fiber by being disposed to sandwich the barrels and being dimensioned to radially  
20 protrude from the barrels; and  
ultrasonic fusion splicing points formed along said juncture so as to fusion

splice the first and second flanges together.

16. The spool for winding an optical fiber as set forth in claim 15, wherein each of the first and second barrels has an end, the axial engagement occurring at the ends,  
5 the juncture being uneven along said ends.

17. The spool for winding an optical fiber as set forth in claim 16, wherein the juncture is configured in a zigzag pattern.

10 18. The spool for winding an optical fiber as set forth in claim 15,  
wherein the optical fiber has a start end; and  
wherein at least one of the first and second flanges includes a through hole for passing the start end of the optical fiber.

15 19. The spool for winding an optical fiber as set forth in claim 18, wherein said at least one of the first and second flanges includes both flanges.

20 20. The spool for winding an optical fiber as set forth in claim 15, wherein the first and second flanges are made of plastic.